

High Power Dual Directional Coupler, 1-2GHz, 50dB, 7/16 DIN-F/SMA-F WMHPDDC-1-2-50dB-DS

Description

Model WMHPDDC-1-2-50dB-DS from Werbel Microwave is a dual directional coupler that covers the L band, 1 to 2 GHz. This catalog model features 50dB coupling factor in both forward and reverse directions. It is capable of handling 1 kilowatt on the main line. The catalog model ships with 7/16-DIN Female connectors on the main line and SMA Female connectors on the coupled ports. Custom configurations of dB values and connector types are available. Consult the factory with your requirements.



Photo is representative.

The forward and reverse coupled outputs are independently isolated, which means that a mismatch on one coupled port will not affect the other. This is a useful characteristic in amplifier power monitoring applications where a good VSWR cannot always be guaranteed at the detector input.

Specifications	Min.	Typ.	Max.	Units
Frequency	1000	--	2000	MHz
Impedance	--	50	--	Ohm
Coupling	--	50	--	dB, typ.
Frequency Sensitivity (Flatness)	--	±1.0	±3.5	dB, max.
Mainline Loss ¹	--	0.16	0.35	dB, max.
Directivity	15	25	--	dB, min.
Return Loss (In and Out)	22	25	--	dB, min.
Input Power (CW) ²	--	--	500	Watts

Mechanical

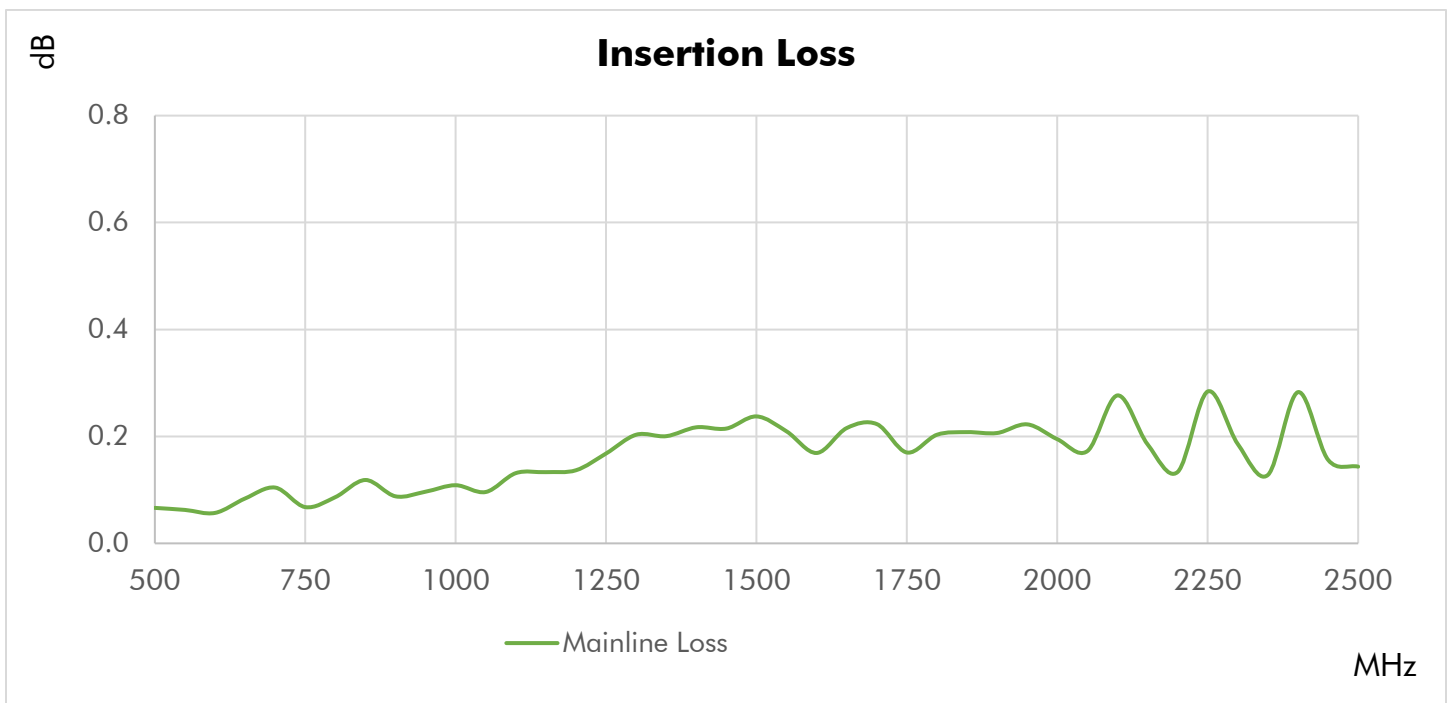
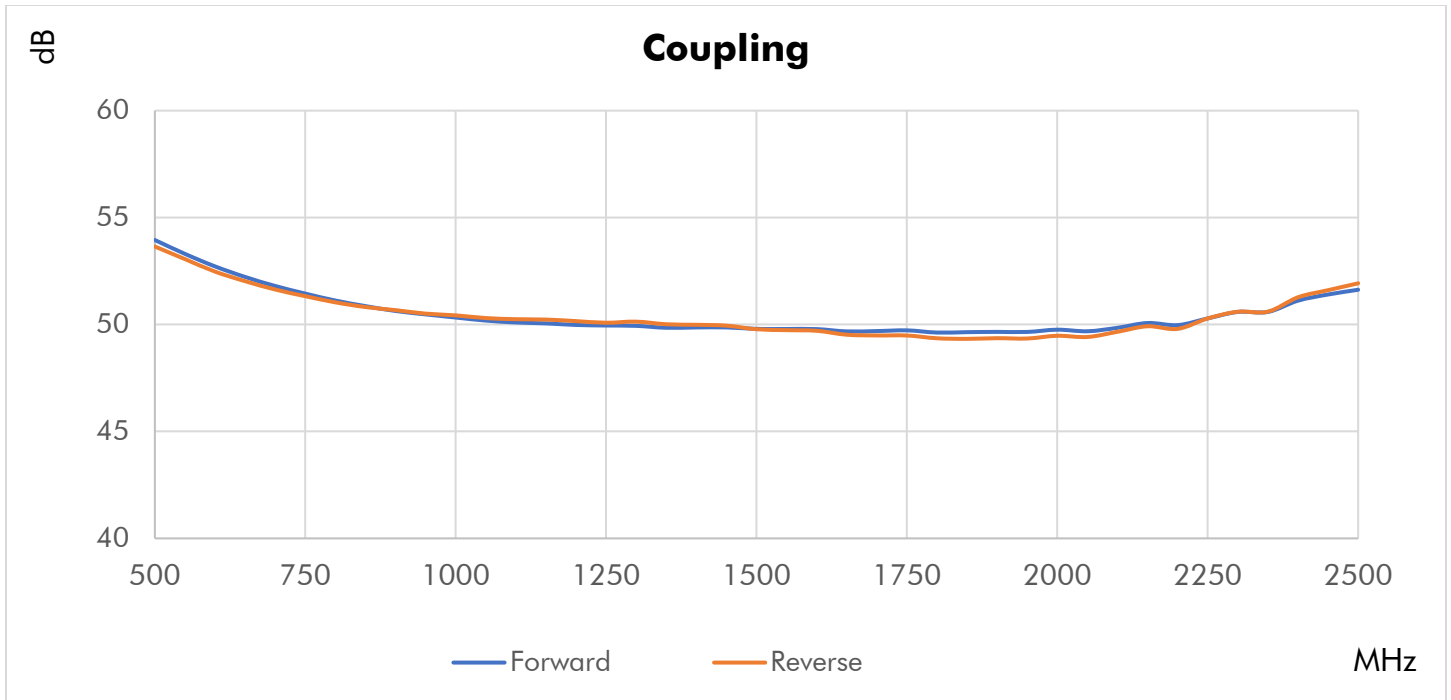
Connector Interface	N-Female
Operating Temperature ³	-10 to +65 °C
Thermal compound between mounting surface and base plate is recommended.	
Storage Temperature	-55 to +100 °C
Weight	12.8 oz (363 g)
Humidity	10-90% non-condensing
Environment	Indoors Use Only

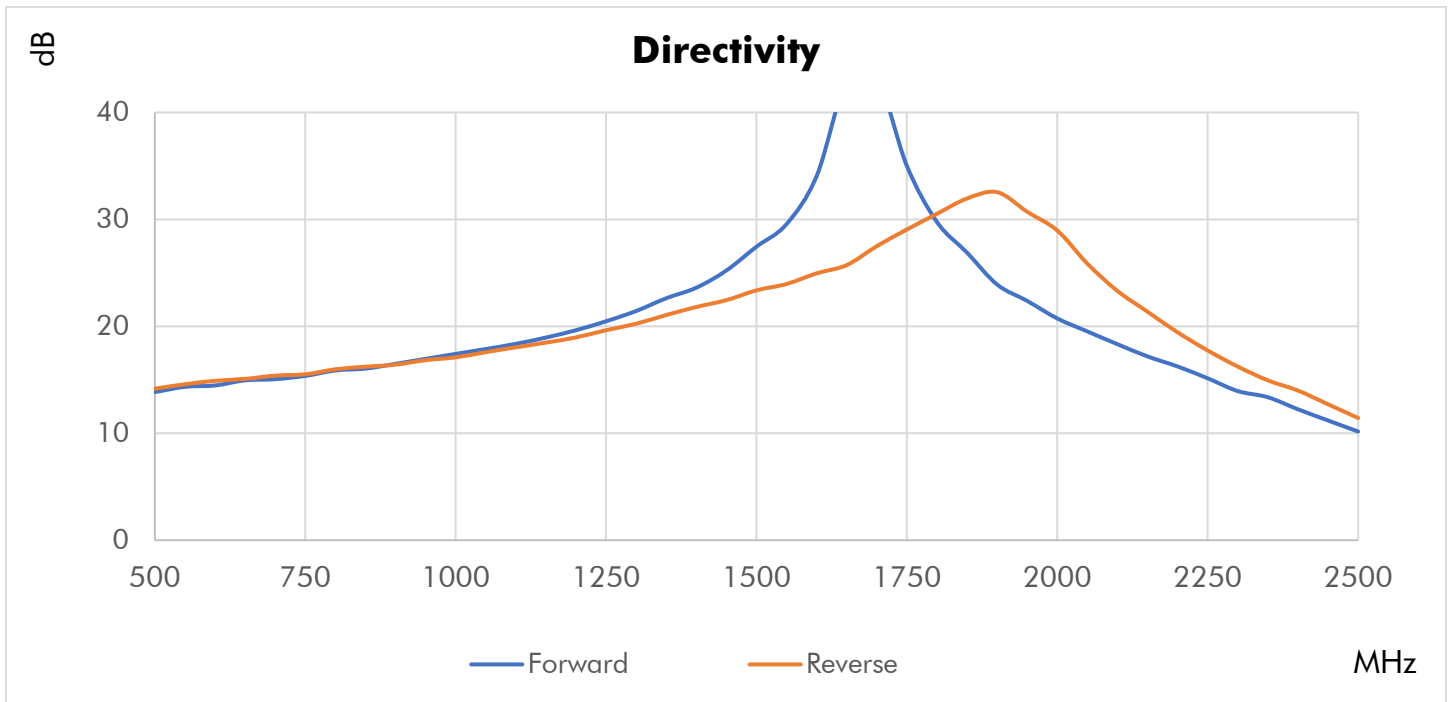
1. Mainline loss includes coupling loss.
2. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
3. Electrical specifications at +25 °C.
4. To the best of our knowledge at time of publication.

Materials

RoHS and REACH Compliant ⁴	
Enclosure	Aluminum
Connectors	Stainless Steel
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish (Outer)	Green Paint
Finish (Mounting Surface)	Clear Conversion Film

Typical Performance at +25 °C

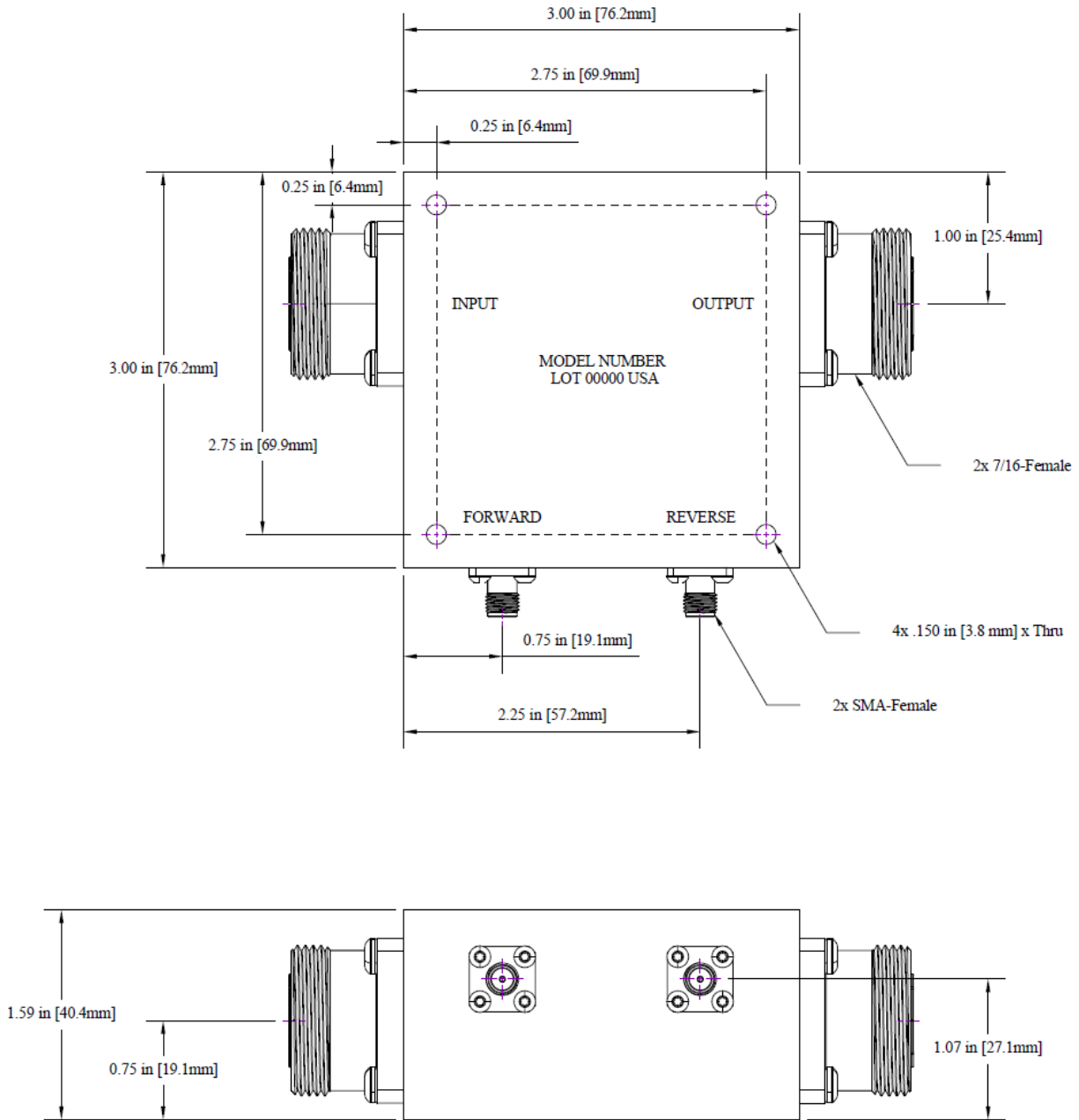




Typical Performance Data

Frequency (MHz)	Return Loss (dB)				Mainline Loss (dB)	Coupling (dB)		Directivity (dB)	
	In	Out	Fwd.	Rev.		In-Out	Fwd.	Rev.	Fwd.
500	27.04	27.27	35.47	35.90	0.07	53.95	53.65	13.85	14.17
550	26.07	26.33	34.95	35.11	0.06	53.30	53.06	14.35	14.59
600	25.24	25.54	34.72	34.58	0.06	52.72	52.47	14.47	14.91
650	24.61	24.81	34.57	34.23	0.08	52.22	52.03	14.95	15.09
700	24.01	24.18	34.07	33.50	0.10	51.80	51.64	15.06	15.39
750	23.69	23.90	33.61	32.73	0.07	51.45	51.33	15.37	15.52
800	23.49	23.67	33.45	32.29	0.09	51.12	51.04	15.88	15.98
850	23.39	23.60	33.01	31.59	0.12	50.86	50.82	16.05	16.23
900	23.48	23.74	32.48	30.77	0.09	50.63	50.67	16.49	16.42
950	23.70	24.05	32.15	30.19	0.10	50.47	50.51	16.96	16.84
1000	24.08	24.55	31.74	29.59	0.11	50.33	50.43	17.42	17.10
1050	24.72	25.18	31.15	28.80	0.10	50.18	50.30	17.88	17.59
1100	25.40	26.36	30.75	28.24	0.13	50.10	50.25	18.36	18.04
1150	26.31	27.74	30.43	27.84	0.13	50.05	50.23	18.95	18.48
1200	27.40	29.54	29.93	27.23	0.14	49.98	50.16	19.64	18.96
1250	28.92	32.13	29.42	26.65	0.17	49.95	50.08	20.48	19.64
1300	30.66	36.19	29.05	26.28	0.20	49.94	50.13	21.44	20.25
1350	33.57	40.83	28.48	25.73	0.20	49.85	50.01	22.63	21.06
1400	38.64	41.23	28.09	25.32	0.22	49.86	49.99	23.61	21.81
1450	47.87	36.27	27.71	24.95	0.21	49.86	49.95	25.23	22.45
1500	40.55	33.17	27.26	24.52	0.24	49.80	49.78	27.45	23.37
1550	35.38	31.37	26.76	24.11	0.21	49.79	49.74	29.56	23.96
1600	32.08	29.68	26.38	23.76	0.17	49.79	49.71	34.06	24.96
1650	30.39	28.85	26.00	23.44	0.22	49.68	49.52	42.90	25.73
1700	29.38	28.25	25.58	23.07	0.22	49.69	49.49	43.25	27.50
1750	28.39	27.81	25.18	22.71	0.17	49.73	49.49	34.99	29.06
1800	27.98	27.52	24.81	22.43	0.20	49.62	49.36	29.75	30.53
1850	27.73	27.38	24.40	22.07	0.21	49.64	49.33	26.89	31.96
1900	27.53	27.32	24.02	21.76	0.21	49.66	49.36	23.91	32.55
1950	27.35	27.40	23.72	21.47	0.22	49.65	49.35	22.37	30.71
2000	27.31	27.35	23.42	21.21	0.19	49.76	49.47	20.74	28.96
2050	27.30	27.37	23.06	20.90	0.17	49.68	49.42	19.52	25.86
2100	26.87	27.21	22.76	20.62	0.28	49.85	49.66	18.33	23.30
2150	27.01	27.36	22.48	20.39	0.19	50.07	49.92	17.19	21.36
2200	26.60	27.10	22.11	20.06	0.13	49.97	49.80	16.24	19.44
2250	25.85	26.55	21.87	19.85	0.28	50.29	50.29	15.14	17.74
2300	25.59	26.21	21.58	19.59	0.19	50.59	50.60	13.95	16.23
2350	24.85	25.70	21.33	19.35	0.13	50.59	50.60	13.37	14.95
2400	23.92	24.76	21.02	19.11	0.28	51.12	51.27	12.24	13.99
2450	23.26	24.17	20.79	18.88	0.16	51.40	51.61	11.19	12.71
2500	22.72	23.57	20.53	18.63	0.14	51.63	51.93	10.16	11.43

Outline Dimensions



Outline # OL-5002

Dimensions are in inches, [mm] shown for convenience.

Tolerances on 2-pl decimals: $\pm .03$. 3-pl decimals: $\pm .015$.

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